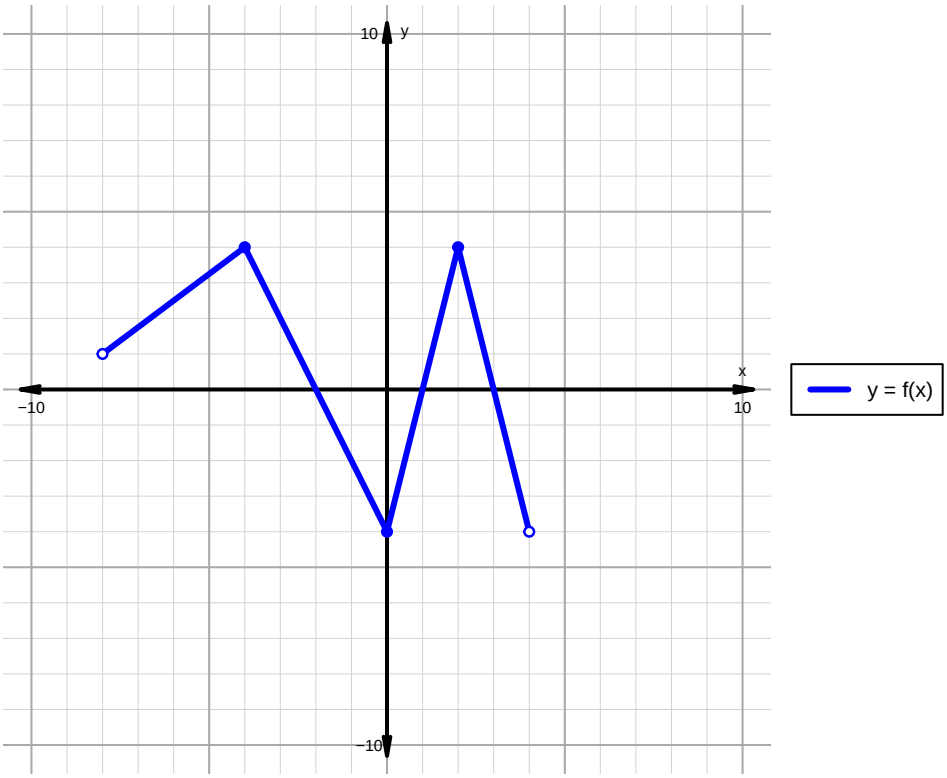
Name: Date:

Intervals, Transformations, and Slope Solution (version 74)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-8,-2)\cup(1,3)$
Negative	$(-2,1)\cup(3,4)$
Increasing	$(-8,-4)\cup(0,2)$
Decreasing	$(-4,0)\cup(2,4)$
Domain	$(-8,4)$
Range	$(-4,4)$

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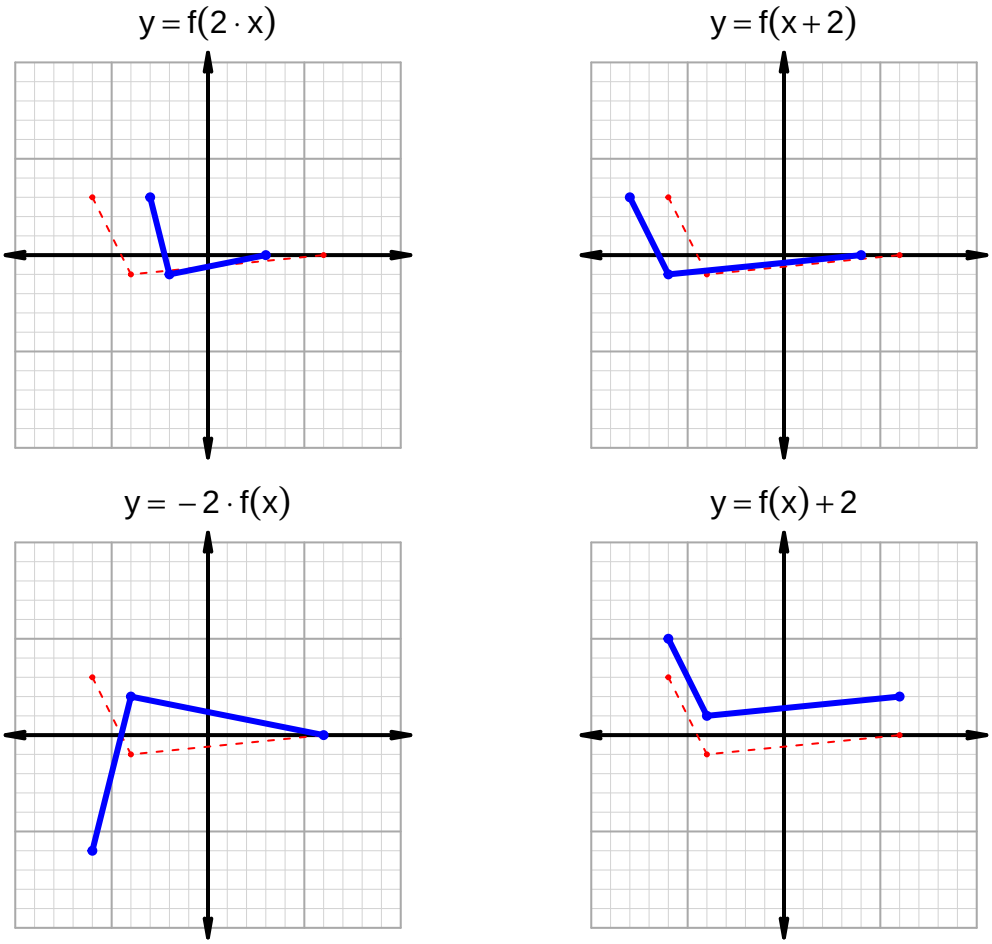
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 28$ and $x_2 = 77$. Express your answer as a reduced fraction.

x	$g(x)$
28	60
60	77
77	81
81	28

$\frac{g(77)-g(28)}{77-28} = \frac{81-60}{77-28} = \frac{21}{49}$

The greatest common factor of 21 and 49 is 7. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{3}{7}$$